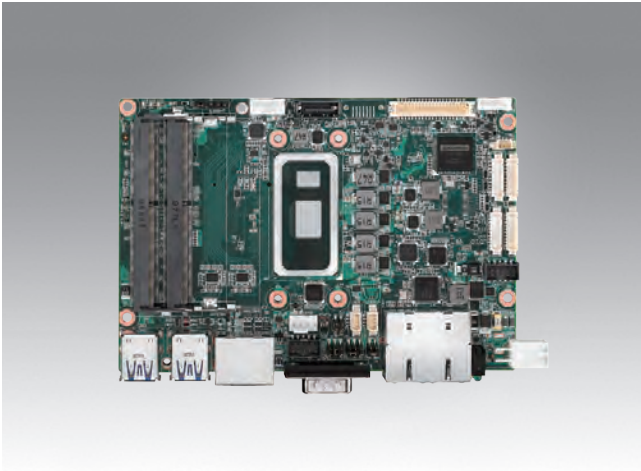


# MIO-5373

## 8th Gen. Intel® Core™ i7/i5/i3/Celeron\* U-Series 3.5" SBC w/ MIOe



### Features

- 8th Gen. Intel® Core™ Processor with Quad/Dual Cores, TDP 15W
- Dual Channel DDR4-2400 up to 32GB, onboard eMMC up to 64GB
- Triple simultaneous displays by 48-bit LVDS/eDP+HDMI+DP
- 2 GbE, 4 USB3.1, CAN Bus, M.2 B-Key 2280 supports NVMe, DC-in 12-24V
- iManager & SW APIs, WISE-PaaS/DeviceOn

#### Software APIs:

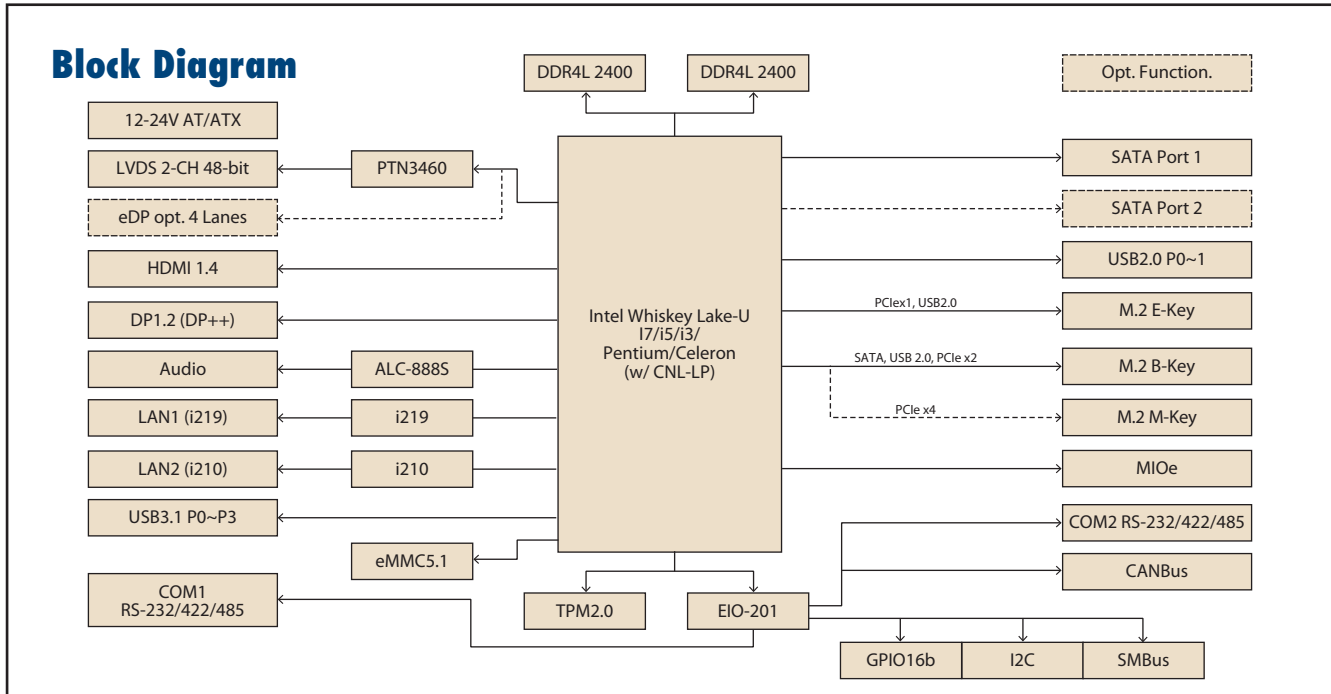


ubuntu yocto Windows10 iManager WISE-DeviceOn CE FCC

### Specifications

	Processor	i7-8665UE	i5-8365UE	i3-8145UE	Celeron® 4305UE (by request)
Platform	Max. Frequency	4.40 GHz	4.10 GHz	3.90 GHz	-
	Base Frequency	1.70 GHz	1.60 GHz	2.20 GHz	2.00 GHz
	Core/Tread	4/8	4/8	2/4	2/2
	LLC	8MB	6MB	2MB	2MB
	CPU TDP	15W	15W	15W	15W
	Chipset	Intel® 300 Series Chipset (SoC Integrated)			
	BIOS	AMI UEFI 256Mbit			
	Memory	Technology	DDR4-2400	DDR4-2400	DDR4-2400
Max. Capacity		32GB			
Channel/Socket		Dual Channel/Dual Socket DDR4			
ECC Support		N/A			
Graphics		Controller	Intel UHD GFx 620	Intel UHD GFx 620	Intel UHD GFx 620
	Max. Frequency	1.15 GHz	1.05 GHz	1.00GHz	1.00 GHz
	Base Frequency	300 MHz	300 MHz	300 MHz	300 MHz
	3D/HW Acceleration	3D Acceleration: Direct3D 2015, OpenGL4.5, OpenCL2.1 HW Decode: HEVC/H.265 (8/10-bit), AVC/H.264, VP9, VP8, WMV9, MPEG2 HW Encode: HEVC/H.264, AVC/H.264, VP9, VP8, MPEG2			
	Display I/F	LCD	LVDS Dual Channel 48-bit up to 1920 x 1200 Option eDP1.4 up to 4096x2304@60Hz		
HDMI/DP		1 Port HDMI1.4 up to 4096x2160@30/24Hz 1 Port DP1.2 up to 4096x2306@60Hz			
Multiple Display		Triple simultaneous displays by LVDS/eDP+HDMI+DP			
Ethernet		Controller	LAN1: Intel i219, LAN2: Intel i210		
	Speed	10/100/1000 Mbps			
	External I/O	Ethernet	2 x RJ-45		
VGA/HDMI/DP		1 x HDMI, 1 x DP			
USB3.1		4			
COM Port		1 x RS-232/422/485			
LED		Power status, HDD R/W			
Power DC-Jack		1*(Optional)			
Internal I/O	SATA	1, up to 6Gb/s (600MB/s); Support 2 SATA by optional			
	USB2.0	2			
	Serial Bus	SMBus, I²C (100K/400K)			
	COM Port	1 x RS-232/422/485			
	GPIO	2 x GPIO 8b (default) or 2 x RS-232 (*by request)			
	GPIO	16-bit general purpose input output I/O			
	Audio	Realtek ALC-888S, Line-in/Line-out/MIC			
	Inverter	12V/5V/3.3V selectable			
	LPC/SPI Bus	LPC			
	CAN Bus	1 x CAN Bus 2.0			
	Fan	4-wire smart fan			
	Front Panel Control	Power-on			
	Board Feature	Watchdog Timer	65536 level, 0-65535 sec		
TPM		TPM2.0 (SLB9670XQ2.0)			
iManager 3.0		Yes			
Storage	eMMC	eMMC5.1 default 32GB, up to 64GB			
Expansion	M.2	1 x M.2 E-Key for M.2 2230 A-E Key module (PCIe x1, USB 2.0) 1 x M.2 B-Key for M.2 2280 B-M Key SSD module (SATA or NVMe/PCIe x2, auto detect), or M.2 3042 B-Key LTE module (USB 2.0, w/Bracket) ; BOM option to 1 x M.2 M-Key for M.2 2280 M-Key NVMe SSD (PCIe x4)			
	Mi/O Extension	4 PCIe(x1/x2/x4), USB2.0, LPC, SMBus, Line-out, 12V/5V Power supply			
Power	Supply Voltage	Vin: 12V-24V +/- 10%; RTC Battery: Lithium 3V/ 210mAH			
	Connector	ATX 2x2-pin, optional: DC-Jack*			
	Power Management	AT(default), ATX			

## Block Diagram



## Specifications (Cont.)

Power	Max. Consumption	65.59W (12V) / 74.06W (24V)	71.28W (12V) / 74.04W (24V)	35.70W (12V) / 38.68W (24V)	TBD
	Idle Consumption	6.68W (12V) / 8.71W (24V)	7.55W (12V) / 7.55W (24V)	7.03W (12V) / 8.18W (24V)	TBD
Environment	Temperature	Operating: Standard: 0 ~ 60 °C (32 ~ 140 °F), Extend: -40 ~ 85 °C (-40 ~ 185 °F) Storage: -40 ~ 85 °C (-40 ~ 185 °F)			
	Humidity	Operating: 40 °C @ 95% relative humidity, non-condensing Storage: 60 °C @ 95% relative humidity, non-condensing			
	Vibration Resistance	3.5Grms			
Certification	EMC	CE, FCC Class B			
Mechanical	Dimensions	146 x 102 mm (5.7" x 4")			

## Ordering Information

Part Number	CPU	Max. Frequency	Core	eMMC	CANBus	TPM2.0	MIOe	Cable Kit	Thermal Solution	Operating Temp
MIO-5373U-U7A1	i7-8665UE	4.4 GHz	4	32G	Y	Y	Y	Y	Passive	0 ~ 60 °C
MIO-5373U-U6A1	i5-8365UE	4.1 GHz	4	32G	Y	Y	Y	Y	Passive	0 ~ 60 °C
MIO-5373U-U3A1	i3-8145UE	3.9 GHz	2	32G	Y	Y	Y	Y	Passive	0 ~ 60 °C
MIO-5373UL-U6A1	i5-8365UE	4.1 GHz	4	N	N	Y	N	N	Passive	0 ~ 60 °C
MIO-5373UL-U3A1	i3-8145UE	3.9 GHz	2	N	N	Y	N	N	Passive	0 ~ 60 °C
MIO-5373UX-U7A1	i7-8665UE	4.4 GHz	4	32G	Y	Y	Y	Y	Passive	-40 ~ 85 °C
MIO-5373UX-U6A1	i5-8365UE	4.1 GHz	4	32G	Y	Y	Y	Y	Passive	-40 ~ 85 °C

\*Default BIOS supports 64 bits OS installation, BIOS for 32 bits OS installation is supported by project.

## Packing List

Part No.	Description	Quantity
	MIO-5373 SBC	1
	Startup Manual	1
1700006291	SATA cable 30cm	1
1700018785	A CABLE SATA 15P/1*4P-2.5 35cm	1
1700019584	A Cable 2*5P-2.0/Audio JACK*3 20cm	1
1700030404-01	RS-232 9P(M)/1*10P-1.25 20cm MIO-5373	1
1700030406-01	M Cable 2*5P-2.0/USB-A 4P(F)*2 20cm	1
1960091427N001	MIO-5373 heatsink for 0 ~ 60 °C	1
	mini Jumper pack	1
1960091427N011	MIO-5373 heatsink for -40 ~ 85 °C	1

\*MIO-5373UL series do not include cable kits in packing list.

## Optional Accessories

Part No.	Description
1970004423N020	Heat spreader for single layer display HDMI connector (Optional)
1960090264N000	Bracket for M.2 2280 to M.2 3042
1970004423N030	Heat spreader for dual layer display HDMI + DP connector

## Embedded OS/API

Embedded OS/API	Part No.	Description
Windows 10	20706WX9HS0030	64-bit (UEFI Mode Only)
Ubuntu 20.04	20706U20DS0010	Ubuntu Desktop 20.04 LTS 64-bit Image & License Sticker for MIO-5373
Yocto Software API	Support by Request	Yocto BSP and Test Image
	Website Download	SUSI v4.0

## Rear I/O View



Dual layer HDMI + DP (Default)

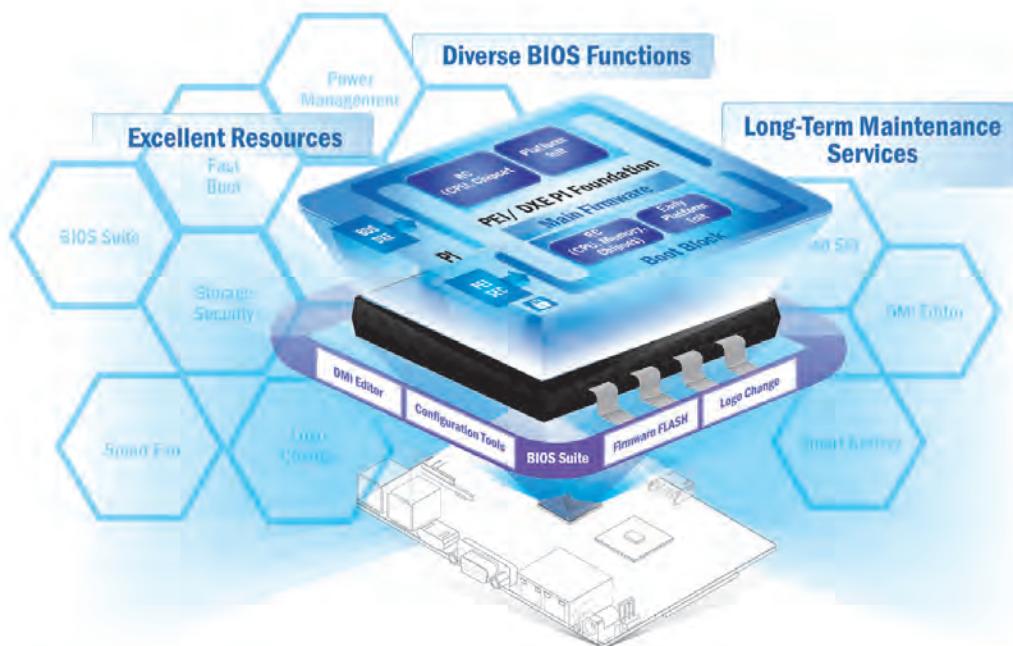


Single layer HDMI for low profile (optional)

# Reliable Embedded BIOS Solutions

Custom BIOS services with long-term support

Advantech's high-quality embedded BIOS solutions deliver rapid execution and feature expert BIOS team support. These solutions feature multi-functional designs that ensure security and enable power/boot management. Advantech further provides 10+ years of BIOS version management, internal management, and longevity support for both hardware and BIOS — enhancing application efficiency, diversifying functionality, and optimizing performance.



## Embedded BIOS Solution Advantages

### Sufficient Sources

- Strong partnership with BIOS vendors
- 50+ engineers with extensive industrial BIOS experience

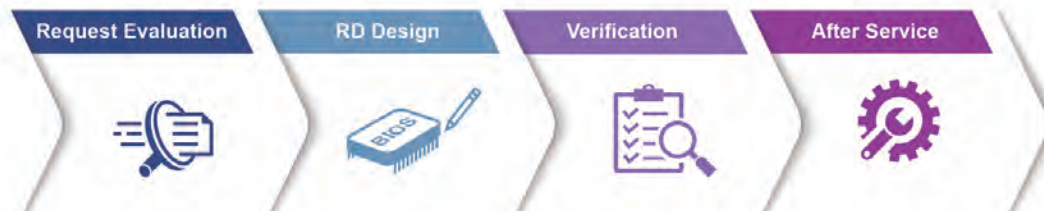
### Diverse BIOS Functions

- Multi-layer security
- 3 second fast boot
- Power management
- BIOS suite utility

### Long-Term Maintenance Services

- Platform longevity support
- 10-year BIOS version control
- BIOS remote backup

## Value-Added Customization Process



# Embedded Linux Support and Design-in Services

## Hardware Certified Ubuntu and Yocto with Eco Partner Services

Linux is the most popular embedded OS for transportation, outdoor services, factory automation, and mission critical applications. Its open source and kernel reliability features ease security updates, and make it particularly adaptable to new AI and Edge computing technology. Advantech has cooperated with Canonical and other software partners to provide hardware certified Ubuntu image and Yocto BSP as Linux offerings. The Advantech, Embedded Linux, and Android Alliance (ELAA) delivers local software services and consultation.



### Features

Certified OS and BSP	Licensed Services	Numerous AI and Edge Resources	Local Partner Alliance
<ul style="list-style-type: none"> <li>Platform compatibility tests</li> <li>Preloaded functional driver and software stacks</li> </ul>	<ul style="list-style-type: none"> <li>License authorized Canonical delivers 10-years of bug fixes and security updates</li> <li>In-house bundled service</li> </ul>	<ul style="list-style-type: none"> <li>Containerized technology for service provision and deployment</li> <li>AI resources from Caffe, TensorFlow, and mxnet</li> </ul>	<ul style="list-style-type: none"> <li>Embedded Linux and Android Alliance (ELAA)</li> </ul>

# Edge AI Suite

AI development for diverse application at the Edge

Increasing demand for AI inference/analytic capabilities at the Edge make AI training models, software development environments, and hardware configuration key factors in successful solution deployment. Advantech's Edge AI Suite helps users build AI demo devices quickly and choose optimal hardware solutions easily.



5x Performance Boost	All-in-one Installation	One Click AI Experience	Plug-and-play Environment	Discover Cost-effective Hardware
<ul style="list-style-type: none"> <li>Integrated Intel® OpenVINO™ technology</li> <li>Boost AI using Advantech hardware</li> </ul>	<ul style="list-style-type: none"> <li>Build AI environment in under 5 minutes</li> <li>Ready-to-use configuration</li> </ul>	<ul style="list-style-type: none"> <li>User friendly configuration guidance</li> <li>One-click Benchmark acquisition</li> </ul>	<ul style="list-style-type: none"> <li>Easy access to 100+ AI inference extensions</li> <li>Software development package available</li> </ul>	<ul style="list-style-type: none"> <li>Diverse CPU/RAM options</li> <li>Find hardware solutions for AI development</li> </ul>

# WISE-DeviceOn

## Massive IoT Device Management Utility

IoT deployment and management typically involves numerous disparate devices installed on multiple sites. These devices require effective monitoring, managing, and tracking. Advantech's easy-to-use WISE-DeviceOn interface enables users to remotely monitor device health, troubleshoot problems, and send software/firmware updates over-the-air (OTA). In sum, DeviceOn empowers quick real-time responsiveness to emerging problems.



### Features

Comprehensive Management	Remote Access	Efficient Operations
<ul style="list-style-type: none"> <li>• Devices status</li> <li>• Peripherals/firmware</li> <li>• Open for extension</li> </ul>	<ul style="list-style-type: none"> <li>• Real-time monitoring</li> <li>• Remote controls</li> <li>• Troubleshooting</li> </ul>	<ul style="list-style-type: none"> <li>• Zero-touch on-boarding</li> <li>• OTA updates</li> <li>• Batch control</li> </ul>

### Product Highlights

 <p><b>SOM-6883</b> High-performance 11<sup>th</sup> Gen Intel® COMe Type 6 Module</p>	 <p><b>MIO-5375</b> Compact 11<sup>th</sup> Gen Intel® Outdoor Focused 3.5" SBC</p>	 <p><b>EPC-B5587</b> 10<sup>th</sup> Gen Intel® Xeon® based Edge server</p>	 <p><b>EPC-R3220</b> Arm based IoT Edge Gateway</p>
---	--	--	--